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REMARKS – General

By the above amendment, the applicant has amended all the claims to define the invention more particularly and distinctly so as to overcome the technical
5   rejections and define the invention patentably over the prior art.

Claim Rejections under 35 USC § 112 have been overcome

10   The last O.A. rejected the Claims 30-48. Claim 30-48 have been amended to avoid technical rejection. Applicant requests reconsideration of this rejection.

The last OA points out that term "client operation function" of claim 30 and 36 is not defined in the specification. Claim 30 and 36 have been amended as: "Wherein said PMAD has multimedia and data communication function means
15   corresponding with said TDMN operation function means" to match with specification in "Fig.3 is a function block diagram shows the design of the Personal Mobile Access Device (PMAD) of the present invention" and its specification.

Claim Rejections Under 35 USC § 103

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Claim 28 and 49 is rejected under 35 U.S.C 103(a) as being unpatentable over Dowling US 20050170824 in view of Sirdhar (US 2001/0047421).

Dowling's embodiment is a completely different system as compared with the
25   applicant's current invention. Although Dowling has the wireless network side implemented, which comprises wireless AP and a server with Internet connection. (fig.1, 150, 113, 122 and 125), Dowling's mobile unit has three antennas (radios) (fig.1, 110, 140, and 145), antenna 110 (first air interface) and cellular phone network form the primary part of communication system while

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server 125 is a wireless network access management server, as per "The management session is initially supported by a first air interface such as the air interface connection 112. The management session is established with a network server such as the network server 125" [0059]. Server 125 only provides initial wireless resource

5   information for mobile unit 150 to access wireless network. This is different from the applicant's current invention where the server is part of the communication path. In conclusion, although Dowling has wireless AP and Internet connection in the embodiment, due to the different functions of mobile unit (Dowling's mobile unit 105 has at least 2 different type of radios (fig.2, 200 and 215) with cellular

10   wireless channel (fig.2, 200) as primary channel) and the server, it is completely different from the communication of the applicant's current invention.

The last OA disagrees with above contention by "Dowling explicitly teaches three methods of communication. The mobile unit is connected to a first antenna 110 which is used to maintain a first network connection 112 [0027], the mobile

15   unit is also optionally coupled to a satellite antenna 140 [0030], and the mobile unit 105 is also optionally coupled to a local area network 145 [0031]". The applicant agrees with the antenna citation of Dowling of last OA. However, this further confirms the Dowling has a complete different wireless system from the applicant's current invention. Specifically:

20   1)   Dowling provides a system using a server and a first air interface to control client's access to wireless communication via the second access point or provider (Abstract and Fig.4 and its description).

2)   Dowling's first antenna needs to be active all the time at least partially in order to provide information for the server to control the second

25   antenna (Fig.2, 145, 215) and software radio (220) to communicate via other wireless providers (Fig.4, PROVIDER and its description). Dowling's satellite antenna 140 is for the purpose of receiving GPS signal. [0030]. The location information is then used to find wireless access point for mobile unit, as "the mobile unit reports its positional

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information to the remote network server 125 via the first air interface

connection 112, and the network server sends signals to the mobile unit 105

and the local area wireless access point 150 to cause the mobile unit and the

local area wireless access point to initiate communication therebetween"

5   [0050].

3)   Dowling in Fig.4 and its description teaches that the SERVER (Fig.1,
     125, Fig.4 SERVER) helps and manages the CLIENT (Fig.1, 105 via
     145, Fig.4 CLIENT) to get wireless Internet access through the
     PROVIDER (Fig.1, 150, 113, Fig.4 PROVIDER). After the wireless
10   access (Fig.4 connection between 450 and 455) is granted, the
     SERVER has no involvement with the actual communication between
     the client and the new wireless provider. Therefore, it cannot control the
     technical aspect of wireless communication of the CLIENT. Referring
     further to Fig. 4, the SERVER only serves business management
15   functions for the wireless access PROVIDER ("contract" 430 <-> 435,
     "accounting" 460 <->465, "billing payment" 470 <-> 475). The SERVER
     only has a non-technical function for the PROVIDER besides helping
     CLIENT gain access to the PROVIDER by sending software radio
     configuration. The SERVER is not in the technical path of the CLIENT's
20   wireless communication. In fact, each PROVIDER (Fig.1, 150 and 113,
     Fig.4 PROVIDER and their description) has their own network and
     wireless access [0031], Dowling's server (Fig.1, 125) cannot manage
     technical aspects of these network, only the business relationship. The
     communication quality of mobile unit (Fig.1, 105) only depends on the
25   quality of the PROVIDER. The SERVER cannot do anything about it,
     which is completely different from the applicant's current invention.

4)   In the embodiment of the applicant's current invention, the
     communication among PMAD is technically managed and controlled by
     the server means of TDMN (Fig.1 and description). Therefore, Dowling

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has a different wireless communication from the system of the

applicant's current invention.

Sirdhar (US 2001/0047421) provides a fixed client/server-based

communication system (Fig.1, Fig.6 and [0022]) based on the TCP protocol for

5   FTP and HTTP applications [0014] on some servers (Fig.1, S1 – S4).

It is technically improper to modify the system of Dowling by having the server

of Dowing as suggested by last OA, because:

1)   Sirdhar presents a client-server system: ([0022] in general, the invention

is a method for communicating between a client communication system and

10   multiple server communication systems over a data communication network.

... The client communication system then communicates with the server

communication system over the data communication network using the

selected transport layer protocol.) On the other hand, Dowling's

embodiment is a two-way mobile communication system (mobile-to-

15   mobile or even to other phone systems with billing features). Function-

wise, these two systems cannot be combined technically. Because

Dowling provides mobile phone to mobile communication, (as

discussed above, in Dowling's SERVER-CLIENT model, SERVER only

has non-technical function with PROVIDER besides helping CLIENT

20   gain access to PROVIDER by sending software radio configuration,

SERVER is not in the technical path of CLIENT's wireless

communication) and Sirdhar provides client-to-server communications.

2)   Voice communication is very latency sensitive. Adding proxies (even if it

is possible) is against Dowling's purpose because at least two proxies

25   are required, one on each end, that will cause enormous latency and

damage the communication quality. In fact, most voice communication

protocols (e.g. SIP, Dowling [0027]) are using the UDP protocol to

decrease latency. Sirdhar's embodiment is a TCP-based proxy that

would not work on UDP. Fundamentally, the TCP protocol has packet

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receive acknowledgement during the communication and UDP protocol
is designed as a broadcasting protocol with no acknowledgement from
the receiving device. Therefore it makes no technical sense to add
TCP-based proxy servers to Dowling's embodiment, and it is technically
5   impossible to doing so because the UDP protocol (does not have
receiving acknowledgement mechanisms) is not like TCP, it is
impossible to monitor the packet communication status and
retransmission is necessary.

3)   Sirdhar does not provide client-to-client communication. If we assume
10   that Sirdhar's client 610 is to be one of the mobile units of Dowling's,
then it is impossible to do any client-to-client communication byu
combining both because every packet of client (610) is communicating
via gateway computer (proxy 612) with modified communication
protocol to remote computer (626). There is no proxy (612) to proxy
15   (612) communication designed in Sirdhar's embodiment nor is it part of
Sirdhar's purpose.

4)   Simply modifying the server of Dowling (Fig.1 box 125) as suggested by
last OA is not enough. Even disregarding the protocol mismatch as
discussed above, in order to implement the retransmission feature of
20   Sirdhar to Dowling's embodiment as suggested by last OA, every
wireless location of Dowling (Fig.1, 150) needs an additional proxy
gateway computer because Sirdhar requires a proxy server (Fig. 6,
612, gateway computer) computer to make the retransmission function
work. This means millions of gateway computers need to be added to
25   the millions of Dowling's AP sites (Fig. 1, 150 & 113).

5)   It is impossible to modify the server of Dowling (Fig.1 box 125) as
suggested by last OA. As discussed above, Dowling's server is not in
the technical path of wireless communication (Fig.1, 105 to 145 to 150
to 113 to 122) of the mobile unit (Fig.1, 105). It is impossible to modify

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or even add a server means for Dowling like Sirdhar provided. (Fig.6, 616, 636). Further, for the purpose of discussion, there are millions of servers on the Internet and adding a remote communication system (Fig.6, 626) for each server is unrealistic. Simply changing a few

5   servers of Dowling's (Fig.1, 125) is not enough.

6)   To combine Dowling with Sirdhar requires in significant technical changes and still cannot achieve the functions of the applicant's current invention.

a. More changes are needed in Dowling's embodiment. Because the
10   new communication system (Sirdhar Fig.6, 626) is added to control
            Dowling's network server (Fig.1, 125), Dowing's APPLICATION
            SERVER (Fig.1, 130), COMMUNICATION SERVER (Fig.1, 135)
            and PACKET TRANSPORT INTERFACE (Fig.1, 120) all need
            significant modification and addition of equipments to communicate
15   with the NETWORK SERVER (Fig.1, 125) because these are
            communications among servers and not the client-server
            communication provided by Sirdhar. Therefore, one or more third
            communication function/equipment needs to be introduced to solve
            this problem.

20 b. Wireless connection and local network gateway: in any wireless
            LAN, the AP is typically the network gateway device (or with router)
            for wireless devices (mobile device, Dowling Fig.1 105). Sirdhar
            provides a regular PC (Sirdhar, Fig.6, 610) going through a local
            proxy server (Fig.6 612) in the communication loop before the
25   router (Fig.6, 615). In order to implement Sirdhar's local
            embodiment into Dowling's AP (Fig.1, 150), an additional proxy
            (Sirdhar Fig.6, 621) needs to be added between the router and
            wireless AP at each AP location of Dowling's (Fig. 1, 150).

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c. Wrong protocol: Sirdhar only provides proxy implementation of FTP & HTTP protocols over TCP/IP. For Dowling's voice application, the mobile unit (Fig.1, 105) will use SIP or other protocols. This means at lease one different type of proxy server and protocol is required. Therefore, at least one third-party technology is required to resolve this conflict. In fact, as discussed above, SIP is based on the UDP protocol and it is not possible to implement a proxy solution like Sirdhar's.

It is in fact to the applicant's advantage for the last OA to suggest combining both Dowling and Sirdhar to improve reliability of wireless mobile communication over Internet. Essentially, the last OA acknowledges that a better technology is needed to do a reliable wireless mobile multimedia communication over the Internet. The applicant's current invention is far more superior over Dowling's embodiment, even if it could be combined with Sirdhar's.

Therefore, the applicant suggests that combining Dowling with Sirdhar is technically both impossible and improper. The applicant respectfully requests withdrawal of this rejection.

Regarding claim 29, as pointed out by last OA, Dowling does provide roaming of mobile device. However, because the system and communication are different between the applicant's current invention and Dowling, these are two different types of roaming.

Conclusion

For all of the above reasons, the applicant submits that the claims are now in proper form, and that the claims all define patentably over the prior art. Therefore

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he submits that this application is now in condition for allowance, which action he respectfully solicits.

Conditional Request For Constructive Assistance

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Applicant has amended the specification and claims of this application so that they are proper, definite, and define novel structure which is also unobvious. If, for any reason this application is not believed to be in full condition of allowance, Applicant respectfully request the constructive assistance and suggestions of the

10   Examiner pursuant to M.P.E.P. § 2173.02 and § 707.07(j) in order that the undersigned can place this applicant in allowable condition as soon as possible and without the need for further proceedings.

Very respectfully,

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